

ABSTRACT OF THE DISCLOSURE

A method for determining critical dimension variation includes providing a wafer having a grating structure comprising a plurality of lines; illuminating at least a portion of the lines with a light source; measuring light reflected from the illuminated portion of the lines to generate a reflection profile; and determining a critical dimension variation measurement of the lines based on the reflection profile. A metrology tool adapted to receive a wafer having a grating structure comprising a plurality of lines includes a light source, a detector, and a data processing unit. The light source is adapted to illuminate at least a portion of the lines. The detector is adapted to measure light reflected from the illuminated portion of the lines to generate a reflection profile. The data processing unit is adapted to determine a critical dimension variation measurement of the lines based on the reflection profile.